

CLAIM AMENDMENTS

1. (Currently Amended) A method usable with a ~~subterranean~~ well, comprising:
deploying a spring downhole;
energizing the spring before running the spring downhole; and
in the well, releasing energy stored in the spring to cause the spring to radially expand.
2. (Original) The method of claim 1, wherein the energizing the spring comprises:
energizing a coil spring.
- 3.-5. (Cancelled)
6. (Currently Amended) The method of claim ~~[[4]]~~ 1, wherein the energizing the spring comprises: twisting the spring to reduce a diameter of the spring while maintaining the spring at the same axial length.
7. (Original) The method of claim 6, wherein the twisting comprises: twisting the spring consistent with a helical orientation of the spring.
8. (Currently Amended) The method of claim ~~[[4]]~~ 1, wherein the spring has an axial length and the energizing the spring comprises: pulling the spring to energize the spring.
9. (Currently Amended) The method of claim ~~[[4]]~~ 1, wherein the energizing the spring comprises: twisting the spring from a direction opposite from a direction defined by a helical orientation of the spring.
- 10.-14. (Cancelled)
15. (Original) The method of claim 1, further comprising:
providing an elastomer sleeve around the spring.

16. (Currently Amended) A method usable with a ~~subterranean~~ well, comprising:
forming a helical groove in a tubular member to form a spring that is used to expand in
the subterranean well to form an annular barrier.

17. (Original) The method of claim 16, further comprising:
longitudinally varying a profile of the tubular member to form the spring.

18. (Original) The method of claim 17, wherein the varying comprises: making a
wall thickness of the tubular member smaller near a midpoint of the spring than near an end of
the spring.

19. (Original) The method of claim 17, wherein the varying comprises: varying a
winding density of the groove.

20. (Original) The method of claim 19, wherein the varying the winding density of
the groove comprises: forming a higher density of windings of the groove near a midpoint of the
spring than near an end of the spring.

21. (Currently Amended) An apparatus usable in a ~~subterranean~~ well, comprising:
a spring adapted to be energized before being run into the well and in the well release
energy stored in the spring to cause the spring to radially expand to form an annular barrier in the
well.

22. (Original) The apparatus of claim 21, wherein the spring comprises: a tubular
member having a helical groove.

23. (Original) The apparatus of claim 22, wherein a profile of the tubular member
varies along a longitudinal length of the spring.

24. (Original) The apparatus of claim 23, wherein a thickness of the tubular member
is thinner near a midpoint of the spring than near an end of the spring.

25. (Original) The apparatus of claim 22, wherein an angle of the helical groove varies along a length of the spring.

26. (Original) The apparatus of claim 25, wherein the tubular member has a higher density of windings of the helical groove near a midpoint of the tubular member than near an end of the tubular member.

27. (Original) The apparatus of claim 21, further comprising:
a sealing sleeve circumscribing the spring.

28. (Original) The apparatus of claim 27, wherein the sealing sleeve comprises an elastomer sleeve.

29.-31. (Cancelled)

32. (Currently Amended) A system usable in a subterranean well, comprising:
a string adapted to be run into a wellbore of the well; and
a spring adapted to expand to form an annular barrier in the well, the spring comprising a profile that varies along a longitudinal length of the spring.

33. (Original) The system of claim 32, wherein the spring comprises: a tubular member having a helical groove.

34. (Currently Amended) The system of claim 33, wherein a profile of the tubular member varies along ~~[[a]]~~ the longitudinal length of the spring.

35. (Original) The system of claim 33, wherein a thickness of the tubular member is thinner near a midpoint of the spring than near an end of the spring.

36. (Original) The system of claim 33, wherein an angle of the helical groove varies along a length of the spring.

37. (Original) The system of claim 33, wherein the tubular member has a higher density of windings of the helical groove near a midpoint of the tubular member than near an end of the tubular member.

38. (Original) The apparatus of claim 32, further comprising:
a sealing sleeve circumscribing the spring.

39. (Original) The apparatus of claim 38, wherein the sealing sleeve comprises an elastomer sleeve.

40. (Original) The apparatus of claim 32, further comprising:
a wedge circumscribed by the spring and adapted to exert a radial force to expand the spring.

41. (Original) The apparatus of claim 40, wherein the wedge comprises another spring.

42. (Original) The apparatus of claim 41, wherein said another spring comprises a winding that has an opposite orientation than a winding of the first spring.

43. (Currently Amended) An apparatus usable with a wellbore of a subterranean well, the wellbore having a minimum open hole inner diameter, the apparatus comprising:

a base pipe;

a spring mounted to the base pipe and comprising a profile that varies along a longitudinal length of the spring; and

an outer sealing element at least partially surrounding the spring, wherein the sealing element in a relaxed state of the spring has an outer diameter larger than the minimum open hole inner diameter.

44. (Original) The apparatus of claim 43, wherein the spring comprises: a tubular member having a helical groove.

45. (Cancelled)

46. (Original) The apparatus of claim 44, wherein a thickness of the tubular member is thinner near a midpoint of the spring than near an end of the spring.

47. (Original) The apparatus of claim 44, wherein an angle of the helical groove varies along a length of the spring.

48. (New) A method usable with a well, comprising:
deploying a spring downhole, the spring having a wall thickness that decreases from a point near the end of the spring to a point near a midpoint of the spring;
energizing the spring; and
in the well, releasing energy stored in the spring to cause the spring to radially expand.

49. (New) A method usable with a well, comprising:
deploying a spring downhole;
energizing the spring; and
deploying the spring around a wedge.

50. (New) The method of claim 49, further comprising:
using a wedge whose wall thickness is tapered so that the wall thickness is near a maximum near a midpoint of the wedge.

51. (New) The method of claim 49, further comprising:
deploying a wedge that comprises the spring along a spring.

52. (New) The method of claim 49, further comprising:
providing an elastomer sleeve around the spring.

53. (New) An apparatus usable with a well, comprising:
a spring adapted to expand to form an annular barrier in the well; and
a wedge circumscribed by the spring and adapted to exert a radial force to expand the
spring.

54. (New) The apparatus of claim 53, wherein the wedge comprises another spring.

55. (New) The apparatus of claim 51, wherein said another spring comprises a
winding that has an opposite orientation than a winding of the first spring.